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EDITORIAL

BIRTH CONTROL CLINICS IN MADRAS

In our 'Health' issues of June, July, August and September '31, we discussed threadbare, the pros and cons of the world-wide Birth-Control movement and arrived at the conclusion that continence or self-restraint was the only safest, purest and healthiest method, suited to Indian economic conditions and religious sentiments. The occasion for the discussion arose out of the establishment of Birth Control clinics at the time in Mysore and we never thought, then, that Madras would soon follow suit. In 1932, however, one of our Provincial Legislators took it into his head to elicit information from the Government, during the Budget debate, as to their policy with regard to Birth-control. The then Chief Minister, Dewan Bahadur, Munuswami Naidu Garu, in reply stated, "My Hon'ble friend Mr. Shetty spoke on Birth Control. I know there are other people who do not agree with him. There are very few people who agree with him. It is not an easy subject to tackle. It must depend on the advance of public opinion. The attitude of the Government will depend on the strength of public opinion on the subject. I find from the trend of speeches made here that this is not the time for the Government to take any initiative in the matter. It must be left to public opinion to assert itself." The Hindu opinion was voiced forth in the Council by a man of medicine and one who is very popular and trusted by the people-we mean Dr. C.Natesa Mudaliar. He stoutly opposed the introduction of Birth Control clinics in Madras. The late Mr. R. N. Arogiaswami Mudaliar, ex-Minister of Health, representing the Christian community, protested against the introduction of this measure in scathing terms. When during this year, the subject was again mooted in

the Council by the protagonists of the Birth Control movement, Dr. Tajuddin Sahib, on behalf of the Muhammadan community, discountenanced the scheme altogether. While public opinion was thus strongly opposed, there appeared the news in the lay press, that the Hon'ble the Chief Minister of Madras is contemplating the establishment of Birth Control clinics in Madras and the mofussil and provision of facilities for the teaching of this subject in the Medical College and Medical Schools in this presidency. This was something like a bolt from the blue and the Roman Catholic communities in Madras and elsewhere have held protest meetings and are agitating for the cancellation of the scheme. We fail to understand what prompted the Hon'ble the Chief Minister to attempt to launch the scheme so hurriedly and without previously consulting public opinion in the matter.

Let us now examine the wisdom and expediency of this step. The factors that favour Birth Control are :—

i. Over-population and under-production.
ii. Low vitality of the mothers due to frequent pregnancies and child-birth and excessive maternal mortality.
iii. High infantile mortality.
iv. The gradually diminishing strength and stamina of the nation as a whole.

With regard to over—population, there is always Nature to adjust things and wars, famines, pestilence, cyclones, storms, earthquakes and all those divine engines of destruction, are sure to undertake the process of levelling down population to their means of subsistence. The only thing which man can possibly prevent is war and this, he is unable to do, for we find that all the wit and ingenuity of man have been found insufficient to arrive at a satisfactory solution of the disarmament conference. It seems that the lessons and horrors of the last war had been so soon lost on the nations of the world and some mysterious power is now working to effect its own decree. So far as our own Presidency is concerned, over-population is not so serious a menace as to necessitate the limitation on births. There is no good comparing India with England and Wales or for the matter of that, any other country in Europe or America. The total area of England and Wales is 58,300 sq. miles, while that of the Madras Presidency is 141,000 sq. miles, a little more than double the area of the former. The density of population of England and Wales is, however, as high as 649 per sq. mile, while in the Madras Presidency it is only 177. The question of over-population which may be applicable to England and Wales does not arise in the case of our own Presidency. As for under-production, we need not despair, for ours is an agricultural country and our soil is fertile. Our difficulty is mostly economic. The land-tax and other rates and taxes are too many and too much to bear. Consequently the population is in chronic indebtedness. Our salvation therefore lies in the solution of our economic problems first and not in Birth Control. To think, therefore, of Birth Control before attempting to improve the economic condition of the masses,

is just like putting the cart before the horse. Even in western countries, it has been found that there is more food now available for the existing population and that the fear of shortage of food for the rapidly growing population is unfounded.

Scondly, there is the question of excessive mortality and low vitality of mothers due to frequent pregnancies and child-birth. There are other factors in India which contribute to the excessive mortality and the removal of those causes must first be effected before thinking of birth-control methods. Ante and post-natal care of pregnant mothers; institutional confinements, training of midwives to replace the illiterate dais are some of the measures which are urgently called for and any amount spent on them will be money well spent. Already there are signs of maternal mortality decreasing in cities and towns where maternal and child welfare scheme is working. The Chief Minister of Madras would do well therefore to divert his attention to the broadening of the maternal and child welfare schemes instead of establishing birth-control clinics.

Thirdly, the highly infantile mortality in India is again due to want of post and ante-natal care of mothers and infants and more child-welfare centres must be organized. Attention must be paid to the nutrition of infants. It has now become the fashion even with Indian mothers high or low to give up breast feeding, and have recourse to artificial feeding of infants, in abject imitation of the West. There should be more health propaganda work done and unless the proverbial illiteracy of the masses of India is removed and their economic condition improved, there can be no prospect of the infant mortality decreasing. Birth Control has no place in India, when the other urgent programmes relating to the welfare of the people, such as education, sanitation &c remain either halfdone or undone.

Lastly, with regard to the diminishing strength and stamina of the Indian nation, the root cause lies in the economic subjection of India. India can produce enough to eat but only, there is nothing left for the people to eat. India is not in a position at present to prevent export of food-stuffs, cattle, and other commodities necessary for the day-to-day consumption and subsistence of her people, nor is she in a position to prevent the import of patent foods and other food-products, which go to devitalize the nation. Unless India gains that economic freedom which she has been longing for, for nearly half-a-century she will never hope to become a strong, healthy and virile nation. 'Freedom first and Birth Control last' must be the motto of our ministers.

We have already said enough about immorality and other vices engendered and encouraged by the Birth Control movement and how it is against the laws of Nature and we do not therefore propose to traverse that ground again here. We hope our Hon'ble the Chief Minister will give up his Birth Control measure, which in our opinion is ill-conceived, impolitic, inexpedient and inadvisable and direct his energies in other ways indicated above, which, we are certain, will contribute to the happiness, health and prosperity of the people committed to his charge.

CURING CONSTIPATION WITHOUT DRUGS

BY

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LIFE, stated one philosopher, is a matter of getting something into the bowels and then getting it out again. In other words, to sustain life it is necessary to obtain food, and after the nutritive elements have been abstracted from the food, to remove the waste from the intestines. Constipation is a great problem for many. It seems, as the years go on, to become more and more of a problem. Physiologists tell us that it is a by-product of civilization. If it is, it is perhaps just as bad as bald-headedness, another much vaunted by-product of civilization.

The constipated bowel is essentially an uneducated bowel. It seems to have lost its ability to respond to normal stimuli to empty it of the undesirable waste material. For some reason or another it has lost its sense. It must be re-educated. But many people are too lazy to re-educate their bowels. Intestinal inertia seems to have permeated their entire system, instead of being confined only to the bowels.

There is no doubt that laxatives are the most pleasant and easiest to take. But after a while they lose their effectiveness and harsher purgatives have to be employed. They are also irritating and subsequently aggravate the constipation. The best methods in attacking the problem of constipation are the natural ones.

Among the best remedies for constipation, and one which has been used for a long time is common table salt. It certainly is the cheapest and is free from the drawbacks of the drug cathartics. The method of using salt to overcome constipation is as follows: The sufferer is instructed to drink a quart of lukewarm normal salt solution in the morning. This contains two teaspoonful of salt dissolved in the water. The ingestion of a quart of warm salt solution in the morning when the stomach is empty promptly distends it and brings on frequent and powerful peristaltic waves. As a result this action is continued throughout the entire intestinal tract. The physiological action of the saline solution is a stimulant to the mucosa (coats of the gastrointestinal tract). Its stimulating properties increase the intestinal secretions, and it further acts as a solvent upon the intestinal contents.

During the Great War, a French medical officer used plain orange peel to correct constipation of the soldiers in his camp. He prepared this as follows: Fresh orange peel is boiled in about a pint of water for ½ hour. The softened peel is boiled for another ½ hour in fresh, slightly sweetened water and dried. Then it is ready for use. The peel of one orange is sufficient to do the work. Orange peel treated in this manner acts upon the intestines mechanically, bringing on peristalsis. It also increases the flow of bile which also acts as a remedy against constipation.

Mechanical measures have been used with great success in many cases of constipation. These are divided into two groups; passive and active. The passive group consists of massaging the abdominal muscles. Several years ago, Dr. Sahli introduced the cannon ball method of abdominal massage. This consists of rolling a cannon ball, weighing from three to five pounds and covered with flannel along the course of the colon, from the right side of the lower abdomen to the left lower side of the abdomen. This is repeated from thirty to sixty times every morning upon rising.

The more popular form is active exercising. There is a great variety of these. One that is easily carried out consists of raising the right knee from a standing position, clasping it with locked hand and pressing into abdomen. Lower the knee and repeat. Another: Bend the body far downward, doubling the body forward as far as possible, keeping the hands between the thighs, and the knees only slightly bent. The arms are kept straight while doing this exercise. Still another consists of bending diagonally forward from a standing position, pressing into the abdomen against the liver with the right hand; then go forward and downward. In raising to the erect position suddenly release the pressure of the right hand. Alternate in bending diagonally towards the left.

Other effective exercises to re-educate the constipated bowel are: Lying flat on back, hands crossed over abdomen, raise head and shoulders, lower and repeat. Do this for about ten times. At the finish of the exercise hold the head and shoulders up and with the edges of the hands lightly tap the abdomen and lower ribs. Another: Lying flat on the floor, hands clasped behind the head, elbows at the sides, raise left leg and at the same time the head and shoulders are raised, and touch the left knee with the right elbow; lower and repeat. Still another: Lying on the back, bring knees up and clasp; while exhaling draw them down while raising the head, extending it as far as possible toward the knees. Then relax, inhale and repeat.

Diet plays an important part in overcoming constipation. Whole wheat bread, rye bread, gram bread, oatmeal porridge, corn meal porridge, are excellent examples of cereal foods which contain nothing but considerable amounts of cellulose, and which are useful in the treatment of constipation. Among the green vegetables parsnips, carrots, string beans, spinach, green peas, lettuce, squash and celery are vegetables of value in overcoming the tendency toward constipation. Cold slaw is most valuable as an anti-constipation food. Among fruits the apples has the greatest reputation of being a laxative fruit. Pears and peaches are distinctly laxative. Prunes, figs, dates and grapes are rich in laxative elements.

Constipation is believed by some to be a mental habit in a great many cases. A quiet mind makes for an active colon, while a perturbed mind is a powerful incentive for constipation.

Constipation is cured more readily and permanently by natural methods such as outlined above than by cathartics and purgatives. Also it is well to remember that cathartics only relieve

constipation temporarily. They surely will increase the tendency to constipation later on. Some cathartics like castor oil and rhubarb are particularly prone to leave the intestine in a sluggish state after their action. They are best left alone.

The natural methods may take a little longer, but the results obtained from their use will be more satisfactory. They aim essentially in re-educating a bowel which has lost the ability to respond in the way it should. Gentle methods are the only ones which will prove of value.

THE HUMAN NOSE

BY

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IF YOU take the trouble to look at a skeleton the next time you go to a Natural History Museum, you will see how very little of the nose is formed of bone. A skull is peculiarly hideous, chiefly on account of the absence of any nose. The bridge of the nose is made of bone—two little bones, one on each side meeting in the middle line. All the rest of the nose is made of gristle; the nostrils are kept dilated by a stiff piece of gristle embedded in the flesh. The two sides of the nose cavity are separated by a party-wall that is made of gristle. It is this gristle that suffers when a blow is received on the nose. This little bone at the bridge is generally unharmed, or perhaps only bruised. The gristle may be buckled or crushed or knocked to one side.

An inside view

The inside of the nose is quite a large cavity, and there is plenty of room for crushed or bent cartilages inside without any external deformity appearing at all. Hence the damage is not apparent to a casual observer the injury is only discovered when the inside of the nose is illuminated by a special arrangement of lamps and mirrors. The little piece of flesh that separates the two nostrils is formed by the lower end of the party-wall of gristle. This lower end may be pushed to inside the nostril towards which it has been dislocated. The harm resulting from a blow on the nose depends on the amount of bending or dislocating that occurs. A slight defection to one side has no effect.

A bulging party wall

But when the defection is pronounced the bent party wall bulges well into one side, leaving only a small airway on that side, while the other side is left much wider than before. An important effect results from this. When a breath is taken in through the nose, the air cannot find its way easily through the blocked side, and leads to dry catarrh. It is worse if in winter time or in damp weather, the sufferer catches a cold. The blocked side then becomes absolutely impervious, and the feeling is very uncomfortable.

Discover the cause

I have always tried to teach that the only method of treatment that is calculated to give good results is to discover the cause of the complaint, and by removal of the cause to remove the complaint. When you have a nose that requires putting straight, to remedy any obvious defect in its structure, the first thing you do is to get a large bottle of medicine. When you have poured the bottle full down your throat you think you have done a lot of good to the displaced cartilage of the nose. Then you try a Turkish bath, hoping that if you make the skin sweat thoroughly you will put the crooked nose straight. Then you go to a spa to drink the waters, and finally you take proper advice.

A case for operation

It is not a dangerous nor a painful operation to have the inside of the nose straightened. In suitable cases, the result is most gratifying; the first time a man can take a really deep long breath through a nose that has been stopped up for years, he feels that life is worth living. Remember that I am speaking only of cases where the stoppage is due to a broken or dislocated cartilage. If the stuffiness of the nose arises from a thickening of the mucus membrane that lines the nose, an operation may be of no value whatever. The science and art of surgery consists in choosing the proper cases for operation, and discarding the knife where its use promises no relief. Each case is different, and you must not too hastily assume that a method employed with success in the case of Mrs. Brown, who lives over the way, is necessarily the one and only method to employ in your case also.

THE ETHICS OF FASTING

BY

E. S. PILLAI, B.A., *Hosur*.

FASTING has in these days acquired a prominent place in the minds of men in view of the fact that one of the great leaders of men has resorted to this course to attain certain ends. It will therefore be worth while to examine the question rather critically in order to ascertain what effective purpose it serves in human economy. Religious fasts like Lent among Christians, the Ramzan among the Muslims, and the frequent New Moon and other abstentions among Hindus were imposed not only as a spiritual discipline but as a cure for many of the ills which flesh is heir to, by the wisdom of the early founders of religions. But the curative potentialities of fasting have been brought to new light only recently. Fast has become a popular institution in America, thanks to the efforts and success of its champions, prominent among whom stands Bernan Mc Fadden. In England, however, fasting is scarcely known, though there exists a 'Nature Cure' Establishment in the midst of beautiful scenery and where invalids fastings their way back to health are literally starving to life, to use an enigmatic phrase. Doc-

tors, and expert medical men have pronounced such cases as 'chronics' and 'incurables', but they live today to tell the amazing tale.

Proper nourishment and proper elimination conceded, the normal state of the human body is health. Abnormal nourishment and abnormal elimination are the real causes of ill health, sickness and disease. Logically, the method of cure in such cases is to stop the intake of nourishment entirely so that the body may devote its energy otherwise expended, in assimilating food and eliminating the toxins responsible for the ill health. Be the disease, acute or chronic, be its symptoms and name what it may, the cure is to fast and permit the body to get on with its work. The following authentic cases have come directly under the notice of a leading physician. A sixty year old man, weighing 16 stones, was physically a wreck with an abnormal blood pressure of 220. Several doctors gave up his case as hopeless. A brief fast improved him so much that he determined to go to a Nature Cure Establishment, and to fast indefinitely, not unto Death but to fast till he regained his health. Fasting for thirty days on the juice of three oranges daily, for thirty days on water, for twenty days again on the juice of three oranges daily, and finally for twelve days on the juice of six oranges daily, this chronic regained his normal state of health. This was in 1927. During the entire fast of ninety-two days, he declared that he felt 'splendid'. He walked, and smoked his pipe. His weight towards the close of his fast came down to 61 lbs. and his blood pressure towards the close of the first thirty days' fast was reduced to 130, Gradually he got back to food, and within a fortnight his blood pressure returned to 135—below the normal for a man of his years. Several such instances may be multiplied, but space forbids.

The craving for food vanished after a day or two after the fast commences, and a faster can sit at a table where a rich banquet is in progress without experiencing the slightest craving to join it. The fear of starving to death in a fast is simply foolish. The body does not live on its own vital parts, until it has consumed all the lumber, poisonous and fatty issue. The return of hunger is the warning that it is again ready for food.

Fast cure may look simple enough, but it should not be undertaken by any one haphazardly and without proper supervision. I should consider myself highly compensated if any of the leading Medical Practitioners can give some thought to it, and found a Nature Cure Establishment in a locality with a salubrious climate.

* HOW MAY INSECTS SPREAD DISEASE?

BY

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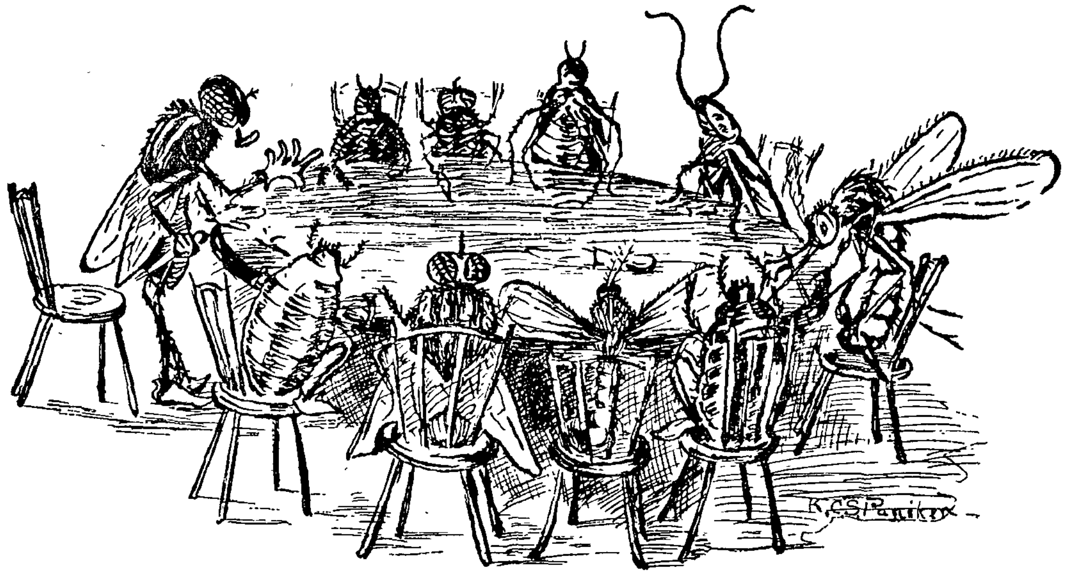
THE tremendous loss of human lives in the great world war which fortunately ended in 1919, is nothing as compared with the terrific toll levied year after year by Man's most dangerous enemies of the insect world.

"No rats, no plague; no mosquitoes: no malaria." are public health slogans on the lips of every body. The insect kingdom can boast of the hard-working busy and selfless honey-bee, the beautiful and gaily coloured butterfly, the ever industrious ant, and the harmless innocent ephemera, but has unfortunately, also amongst its number, the ugly house-fly, the fever-inducing sand-fly,and a host of other flies,the troublesome mosquito, the louse, the tick, the bed-bug, the rat flea, and the mites-all death-dealing in their nature and activities. These messengers of death adopt devious methods and offensive manners in plying their trade and their modes of inflicting injuries and death unto mankind vary a great deal.



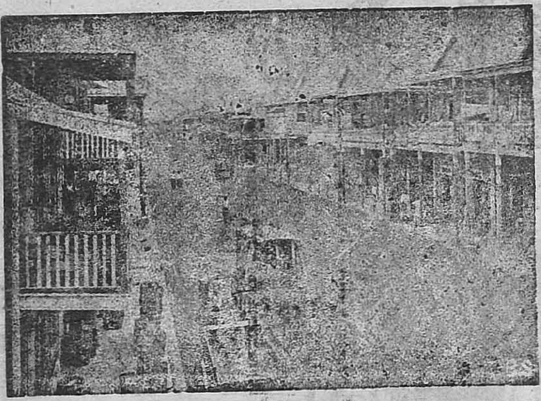
The deadly Insects in infernal conclave.

The House-Fly. A prolific race-is the scourge of mankind. Its very appearance is loathful and detestable. It delights in filth and after taking a hearty meal on the most infective material *e.g.*, a cholera vomit, a typhoid, dysenteric or diarrohœal stool, or a tubercular sputum, or perhaps on all of these in turn, halts on our food,

* (Being the prize essay in the Essay Competition conducted in March 1933 by the National Health Association of S. India for High School Students.)

when it gets a chance, as when food lies exposed and uncovered, and deposits the virulent and infective germs of disease which it carries on its hairy body and legs. The result is often disastrous. The innocent unsuspecting human being falls a victim to the dire disease. While talking of the house-fly, let me mention the sand-fly, which is believed to be the insect vector for the seven days or sand-fly fever, and possibly also for Kala-Azar, and also the Tsetse fly of Africa, which is known to be the cause for the spread of sleeping sickness. These two unlike the house-fly inflict bites to produce the disease in man.

The Mosquitoes are perhaps the next



A street in Colon on the Isthmus of Panama—a malaria-stricken locality, now malaria-free after the Americans cleared it up.

most cosmopolitan and widespread group of insects from the point of view of human welfare. Three principal types are recognised viz :—the culex, the anopheles and the stegomyia. The anophelenes convey the parasite of malaria from the sick to the healthy by biting the sick first and the healthy man next but after the parasites sucked from the sick man have undergone some developmental changes in the body of insect host, namely the mosquito. The culex and the stegomyia types are similarly responsible for the conveyance and spread of yellow fever, dengue and filarial diseases among men.

The most magnificent example of man's wonderful and prodigious success in his fight against disease is that afforded by the eradication of malaria in the Panama Canal Zone. The area was so unhealthy and full of malaria and yellow fever perils that thousands of workmen died in the attempt to excavate the Panama canal. But General Gorgas and his noble band exterminated the mosquitoes by adopting very costly, intensive and extensive anti-malarial measures such as the clearing of jungles, oiling of pools or spraying them with other drugs found to be effective in destroying the larvae.

The Louse. This insect has been proved to be the causal agent in the dissemination and spread of the disease known as Relapsing fever. This disease is however essentially one associated with unclean habits and unkempt hair in the lower orders of society. The lice can be got rid off by applying to the scalp of the head kerosene or petrol-*but not setting fire thereto*-and then combing the hair regularly and well so as to keep it clean, and prevent reinfestation by the louse. The disease when once established can also, fortunately be cured by suitable injections, so the doctors say.

The Rat-flea. These are also of two or three kinds. They are all normally parasites on the body and hair of the rat. I think that only one particular variety or two of the three is responsible for the spread of plague among men. Plague is essentially a

disease of rats. When a rat dies of plague, the other rats, like the rich man's friends, run away and the flea which led a happy life on the rat when alive, also deserts the dead rat. In the course of its long search for another rat it meets man, bites him and injects into him a dose of deadly poison-the plague germs. Evacuation of houses are ordered as soon as a rat-fall occurs in order to prevent the unwelcome meeting of flea and man. A large number of insects of other varieties and other kinds have also been considered to be harmful to man. The cockroach is one such and is believed to have some connection with the spread of kala-azar. The mites produce itches. The ticks are accused of conveying disease from sick to healthy animals. They may also spread disease among men.

The Goddess of Plague mounted on a rat, claiming human victims.

HOW TO PREVENT A COLD

1. Drink six or more glasses of pure water every day so as to flush the waste matter out of the body.

2. Be sure that the intestines function well, at least once, but better twice a day. The ideal of three bowel movements each day is seldom obtained, one after each meal.

3. Acquire the habit of breathing deeply. Practise deep breathing when you are out of doors. Have good ventilation day and night and spend some part of each day out of doors.

4. Take enough exercise every day to keep the muscles, in excellent tone and to maintain a vigorous blood circulation.

5. Eat moderately and do not eat anything between meals. Eat slowly and masticate thoroughly, because that helps to prevent and over-eating is one

of the greatest evils, one of the worst habits of man, leading to disease.

6. Let at least three-fourths of your food intake consist of juicy fruits, salad, vegetables and cooked green vegetables. Naturally, this leaves only one-fourth or a little less of the food intake to cover the starches, the sweets, the proteins, the fats and the oils. The fruits and the vegetables that are to be taken in such abundance protect the body against over-acidity, and it is the progressively growing acidity that produces colic in most instances. One are two unduly hearty meals may throw the body out of balance and cause a cold as evidenced by the unusual number of cases of this ailment after Christmas Day and New Year's Day. This will be prevented by applying the rule about moderation in eating and taking at least three-fourths of fruits and vegetables, and eating one-fourth or less of the concentrated starches, sweets, proteins, fats and oils.

7. Avoid all pastries, including pie. Avoid all dried foods, and all foods cooked in any kind of fat, whether it be deep or shallow. It is also best to omit from the food-plan, cake and rich puddings.

8. To help the body, keep the mind on the positive side. Think constructively; look forward and not backward; look up and not down; plan for better and better work as the months go on, with the determination to carry the plans into effect; live a friendly kindly life and radiate good-will to others. This also means not to go to the table in irritable mood, but, if necessary, to rest till tranquility has returned. Mealtime should be a period of peace and enjoyment. Peace and tranquility promote digestion, while irritability impedes and even destroys it.

A good digestion is essential to the manufacture of good blood, because an inferior or deranged digestion produces blood of poor quality. High grade blood results in such excellent health that the body cannot tolerate such a nuisance as a cold.—O.D.

VITAMINS AND THE TEETH

BY

DON C. LYONS.

IT HAS always been noted that certain individuals and certain tribes have better teeth than others. During the past few years, research workers have bent their efforts to determine the exact cause of this difference and they have been surprised to find the great part that diet plays. Scientists have set out to find what relationship there was between the health of the teeth and food.

The method of preparing the food is important, for preparation may destroy much of the food value and may break up fibres that would help in cleansing the teeth. The more artificial a food the less is its food value, generally speaking. The more civilized the food the more damage that is apparently done to the teeth and the rest of the body.

Nine tenths of the tooth subtances

is mineral. This mineral content is composed mainly of calcium carbonate and calcium phosphate. There must be sufficient mineral salts in the dietary if the teeth are to remain hard and resistant to decay. Perhaps the best example of the lack of these items is seen in many women during and after pregnancy. During this period there is an extra demand on the system for mineral salts for the developing child. Developing teeth require great amounts of mineral salts if they are to become strong and well formed. It is a critical period in their growth. If only the usual amount of mineral salts is included in the diet at this time the teeth of the expectant mother and the teeth of the developing child will suffer.

There is a certain normal requirement for the building of bone, body tissues and the teeth, which must be met. In former days and even today among the unenlightened, expectant mothers with beautiful teeth who do not see their physician and dentist early in the pregnancy, end a pregnancy with softened teeth, many of them hopelessly diseased. From this fact arose the old saying "A tooth for every child." If, however, the mineral intake is increased during pregnancy there will be no reason for dental trouble from this source.

Many parents bring children to the dentist with badly decayed teeth and say that these teeth will not retain fillings. A few questions always bring forth the information that the children will not eat correct foods, will not drink milk or will not touch fruit. In other cases when the mother says that the child does eat all kinds of foods, one learns on further questioning that the child does not eat them in sufficient quantity. Certain definite amounts of food per day are needed to supply the tooth-building elements and any less amount will create disturbances and bring about deficiencies in the tooth substance.

Certain vitamins are essential to the well being of the teeth. They are the prodders or catalytic agent [effect produced by a substance that aids a chemical change in other bodies] that enables the proper chemical reactions to take place. Vitamins assume the role of the catalytic agent in the chemical reactions, that make mineral salts into tooth substance. Mathews says, "Vitamins are accessory food substances of an unknown nature necessary for the nourishment of the body."

From the standpoint of the teeth vitamin A is an important one, although its real importance was not discovered until recently. Dr. Frederick B. Noyes of Chicago in examining a section of human tooth made a discovery of an area of bone in the dentine. It had been entirely overlooked by others. The bone had been formed instead of dentine because of vitamin A deficiency. The discovery of Dr. Noyes' suggests that a deficiency of vitamin A caused the specialized tooth-building cells that produce the dentine of the teeth to change to bone-producing cells. In that case the tooth is constructed of substitute material and will be softer than normal and more easily attacked by decay. Vitamin A is found in dairy products, eggs, cod liver oil, vegetables and some fruits.

A lack of sufficient quantity of vitamin B causes a person to exclaim "My

teeth are all on edge." Without this vitamin there is a disturbance in the glands of internal secretion producing changes in nerve irritability. A sufficiency of vitamin B in the diet promotes greater resistance to the invasion of the teeth by bacteria and it indirectly benefits the child's teeth by stimulating lactation in the mother. The teeth of the breast-fed baby are superior to those of the bottle-fed infant.

Lack of vitamin B causes beriberi and pellagra and one of the symptoms of these diseases is tender teeth. Whole grain cereals, legumes and yeast are rich in this vitamin. If F and G are to be considered a part of B, then some of the fruits will be included in this group.

The lack of vitamin C, antiscorbutic vitamin, produces many changes in the mouth. There is a production of scurvy, hemorrhage, injuries to the dental pulp, swelling and puffiness of the gums. Some say that the doctor and dentist never see a real case of scurvy nowadays. Perhaps that is true, but some authorities believe that any cases of "pyorrhœa" are really scurvy.

Vitamin D might well be called the Dental vitamin, for it is essential to the development and formation of good teeth. It controls the metabolism of mineral salts, particularly calcium. D deficiency means rickets or lack of the proper fixation of calcium in the bones and teeth, resulting in soft, easily decayed teeth.

The most reliable natural foods containing vitamin D are whole milk, egg yolk and cod liver oil. Fortunately for us it is the one vitamin, which is synthetized in the body by sunlight and which can be developed in many foods by subjecting them to the ultra-violet rays.

Besides the vitamin and mineral foods another type of food is necessary to the well being of the teeth. Food is needed that makes the teeth exercise or work. Mechanical scrubbing by the particles of food and the work of grinding the food into small particles are important contributions to healthy teeth and gums.

The average diet today contains more items of soft than of hard food. In fact, teeth are not necessary today to prepare many items of our everyday diet for the stomach. This part of their work has been done in the sauce-pan and in the oven. If the teeth are not worked, the membranes holding the teeth lose their toughness and elasticity. The gums are massaged by the scrubbing of food particles in their passage to the stomach; this mechanical stimulation promotes blood circulation and keeps the gums hard and pink.

Foods that exercise the teeth and gums also cleanse the teeth. The fibres of vegetables and fruits and particles of toast actually scrub the surfaces of the teeth and keep them clean. Rough food does not permit the formation of plaques on the teeth, which cause subsequent decay, and this is the secret of the clean white teeth of wild animals and uncivilized tribes.

The juices of vegetables and fruits are the natural mouth washes, which do much more for the health of the mouth than any mouth wash ever devised. They stimulate a normal saliva and carry with them many of the vitamins.—*The Oriental Watchman.*

INDIGESTION AND DYSPEPSIA

BY

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THE stomach is without doubt the most abused organ of the body. It is not surprising, therfore, that it is subject to many disorders such as dyspepsia, gastritis, ulcers, and cancer. It is not the purpose of this article to go into the cause and treatment of these conditions in detail, but rather to give a general idea of why the stomach fails at times in its work and how to prevent these breakdowns.

First we must remember, as mentioned in our last issue, that there are two principal factors in digestion. One is the gastric juice, containing hydrochloric acid, and the other is the muscular movement, or churning power of the stomach. Failure of either of these soon brings trouble and disease.

A defect in the gastric secretion may be either with reference to quantity, quality or both. In some cases there is too much acid, in others not enough. The same applies to the muscular movements. These may be either too vigorous or too weak, usually the latter.

There are two types of dyspepsia and gastritis which it would be well to distinguish, and these are the acute and chronic forms. In acute cases, the attack is usually more severe and of short duration and tends to cure itself with little or no treatment. A chronic case, on the other hand begins insidiously and goes progressively from bad to worse. It is a much more dangerous condition and more difficult to cure, especially when established for some time.

Symptoms

The symptoms of dyspepsia and allied conditions are so numerous and varied that it is impossible to mention them all here. They vary considerably according to the type present. Some of the common symptoms are pain in the stomach, flatulence, heartburn, nausea, coated tongue and bad taste in the mouth, headache, sleeplessness, etc.

The chief causes of stomach disorders are of course, errors in diet and wrong habits of eating. Here again, a long list might be mentioned. In it would be such things as rich food, condiments, tea, coffee, alcohol; overeating, late suppers, hasty eating and eating between meals, drinking at meals, exercising or sleeping after eating, eating when tired, etc.

Many people suffer from the pain and inconvenience of chronic indigestion for years without taking appropriate treatment or seeking medical advice. If anything is taken, it is most likely some quack remedy which is advertised as effecting a cure in a very short time. This as a rule only makes the patient's condition worse.

Many cases of indigestion have a nervous origin. This is seen in neurotic individuals, especially women, and also in cases where there is worry and mental strain. The use of drugs, and diseases of other organs such as the heart, may also upset digestion.

It is very important to understand that once digestion has become unbalanced and the stomach inflamed, there is no "cure all" which will

effect a speedy recovery. The trouble is due to certain bad habits and until these are put right there is no way back to health. Also when such habits have been spread over a number of years, it is unreasonable to expect recovery in a few days' time.

Another important point is that organic diseases of other organs sometimes have their origin in indigestion and if the stomach is not attended to, other serious complaints may be established which it is difficult to cure. Many nervous complaints and diseases of the heart and lungs are closely connected with a disordered stomach.

Prevention and Treatment.

Gastric disorders can be easily prevented by paying attention to the laws of digestion. This means having not more than three meals a day of plain but nourishing food, at regular hours. Flesh-foods, tea, coffee, alcohol, condiments, pastry, and rich foods are better avoided altogether. Nothing of any description must be taken between meals, except water. Drinking at meals is better avoided. It is also desirable to eat too little rather than too much; most people overeat. Also avoid eating when tired, worried, or angry. Work and sleep are both bad after meals.

If these points were kept in mind and faithfully carried out, there would be fewer cases of dyspepsia. Once trouble does arise, the only way back to health is by observance of the above points.

Rest plays a very important part in helping the stomach in its work. Plenty of good, sound sleep and freedom from worry will go a long way towards curing most gastric cases. Some cases require more than the usual eight hours and benefit is often derived by resting for a while after meals.

It is impossible to lay down any hard and fast rule as to diet, as what may suit one person may disagree with another. All cases, however, will greatly benefit by thoroughly masticating all that is eaten. As a rule, mastication is only partially performed. A good plan is to continue this for about twice as long as one has been accustomed to do. Mastication is much more likely to be complete when meals are taken dry.

Exercises are often helpful in assisting the stomach, but these should not be taken either just before or just after a meal. Massage of the abdomen for fifteen minutes night and morning is useful in tuning up the stomach and increasing its muscular action.

Where the gastric juice is deficient and digestion slow, the application of heat to the pit of the stomach, or hot fomentations night and morning and a moist abdominal compress worn during the night, will often effect an improvement. A few sips of hot or cold water just before or after eating is another good measure.

In cases of acidity and flatulence, the best remedy is the drinking of two or threeg lasses of hot water an hour before each meal and half an hour before going to bed. This washes out the stomach and prevents fermentation. Charcoal tablets are also useful.

When improvement does not follow treatment, medical advice should be sought and the condition of the stomach investigated. This is most important as simple cases in time may ulcerate and even become cancerous, and the longer the condition is allowed to run on, the more difficult it will be to cure.—*The Oriental Watchman.*

SEWAGE FARMING IN INDIA

BY

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THE problem of the efficient disposal of sewage concerns every modern city. Particularly, the City of Calcutta is faced with a grave menace in view of the possibility of silting up of her drainage in the near future. This article on the economic utilisation of city's refuse, summarised from *Current Science*, will therefore be read with interest. It is to be noted that sewage is being turned into wealth on a commercial scale in U. S. A. Why should it not be in India?

Although a considerable amount of highly valuable research has been carried out on land disposal of sewage, yet the available scientific information with regard to the utilization of sewage in agricultural practice is comparatively limited. As the result of this and the general impression that the problems connected with sewage belong to the domain of sanitary science, we find hardly any mention of sewage farming in books on agriculture. On the other hand, utilization of sewage or sullage, as the case may be, plays a very large part in agricultural practice, particularly in the Far East, and, in view of the valuable fertilizing ingredients present in it, deserves to be even more widely adopted than in the past. It is no doubt true that popular sentiment has generally been against the use of sewage, but there is, as yet no sound scientific evidence to support such an impression: in fact, the remarkable success achieved on certain experimental farms and by several private individuals, particularly market gardeners, would clearly indicate that, with judicious handling, sewage would be the cheapest and, at the same time, one of the best fertilizers used by man. In this direction much valuable information is available from the reports of some of the sewage farms in India.

The effluent farm near Poona was started in 1918 and now covers an area of over 63 acres. The effluent is derived from septic tanks and used for irrigation after suitable dilution with canal water so as to provide about 300 lbs. of nitrogen per acre, in the course of one year. Among the experiments carried out on that farm may be mentioned: (*a*) effect of quantity of nitrogen applied as effluent on the out-turn of sugarcane, (*b*) comparison of sewage effluent with other fertilizers, (*c*) response of different varieties of cane to irrigation with effluent, (*d*) effects of season, frequency of watering, and rotation with other crops on yield and quality of cane, and (*e*) response of various market garden crops, fruit trees, betel, vine, etc., to sewage irrigation. The observations which are spread over several years show that, by judicious irrigation with the effluent, very heavy yields of cane, often amounting to double that obtained by water irrigation can be obtained.

The sewage farm attached to the Indian Institute of Science, Bangalore, was started by Prof. G. J. Fowler in

1922 and has since been in continuous service. The researches conducted thereat relate to: (*a*) the effect of continuous sewage treatment on soil conditions, (*b*) response of different market gardens, fruit, grain and fodder crops to sewage irrigation, (*c*) relative fertilizing values of different types of sewage sludges, raw sewage, effluents from activated sludge and septic tanks and dilutions thereof, (*d*) physiological response of crops raised on sewage, (*e*) study of plant diseases associated with sewage farming, and (*f*) the nature of the morphological and physiological transformations that attend the pathogenic and putrefactive organisms normally present in sewage under conditions relating to sewage farming.

Generally, leaf crops respond better to sewaging than grain or fruit crops but even then frequent fallowing and rotation of crops is necessary to maintain high yields.

Valuable work has been done by Temple and his colleagues at Jamshedpur where a big sewage farm is being maintained successfully on wet activated sludge alone.

The sewage farm at Dacca was under the management of the Public Health Department of the Government of Bengal between 1923 and 1930. During that period considerable amount of fundamental work was carried out investigating the best means of utilisation in dry as well as wet weather. During the dry season fodder as well as market garden crops thrive on sewage effluent but the latter have not so far, proved quite paying. During the flood season, when the land is too wet to irrigate, the effluent is discharged into large dilution tanks, 14 acres in extent, and thus disposed of.

Although much useful headway has already been made, a great deal yet remains to be done. The system of irrigation has still to be improved so as to secure maximum benefit from all the plant nutrients present in sewage. The dangers of crop lodging have to be avoided without sacrificing the fertlizing value of nitrogen. The conditions relating to the application of sewage to grain and remunerative crops have yet to be standardized: crop requirements of ingredients other than those present in sewage have to be determined and judiciously applied. The quality of crops raised on sewage has to be systematically investigated with particular reference to taste, keeping and nutritive value.The transformations attending the various pathogenic and putrefactive organisms normally present in sewage have to be carefully determined and the relation of those organisms or the products of their metabolism to plant development, animal health and human welfare elucidated. In view of their importance in relation to both agriculture and public health, it is to be hoped that the above and related problems will soon receive the necessary attention at the hands of the workers concerned and that sewage farming will, before long, be placed on a sound economic and hygienic basis:—*Scientific Indian.*

Simplified Home Nursing Couplets

PERSONAL HYGIENE

Rest, Exercise, Outdoor Recreation,
Seven hours' sleep daily is your ration:
Food at regular intervals, be
Away from sick room, certainly ;
A warm bath daily, or sponge down,
Attend to nails and skin around ;
For cuts and cracks, use iodine dressing,
Teeth scrupulously cleaned, no germs possessing;
Constipation banished by regular habits,
Clothing washable, prefer white jacket.

A/S KNIGHT (Nottm).
—*First Aid.*

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Are Perfumes Beneficial to Health?—From ancient times Eastern peoples, who had a strict code of sanitary rules attached special value to aromatic oils and odorous spices. Perfumes are believed to be capable of affecting in greater or lesser degree every function of the human body. The use of certain perfumes is recognised as prophylactic. Brain fag and headaches are often dissipated by lavender water, eau-de-Cologne and attar of roses. Insomnia is sometimes relieved by the odour of pine. Ailing and convalescent children are benefitted by soft odours such as those, of the lily-of-the-valley and sweet pea. It is said that inmates of casualty wards and patients convalescing after operations have a preference for lilac, lavender and heliotrope, sometimes becoming restless and showing unfavourable symptoms when these odours are withheld. Manufacturers and distributors of perfumery are justified in laying emphasis on the healthful effects of their products.—T. E. Nesbit (*Soap Trade Review*, 1933, 6, 227.

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Influence of Light upon Sleep.—The question is often asked, "Is sleep during the day time as conducive to rest and recuperation as sleep at night?" Biologic data for the answer to this question is perhaps supplied by observations which have been made by the growth of plants. Watt reports observations which show that the growth of plants is much more active at night than during the day. A bamboo which was observed to grow twenty-three inches in twenty-four hours, grew in the daytime one-third of an inch per hour and half an inch per hour at night.

It seems that under the influence of light, the energy-dissipating activities of the body are dominant while during the night, in the absence of light, the food or energy-bearing material, is stored by the formation of tissue. This idea is borne out by the observation that plants grow more rapidly when at night to the influence of a strong electric light.

These facts seem to indicate that sleep at night being in accordance with the order of Nature, is more conducive to rest and recuperation than sleep during the daytime. However, it seems entirely possible that by the exclusion of light and care to secure the same degree of quiet which usually prevails at night, daytime sleep might prove to be nearly, if not quite, as refreshing and recuperative as sleep taken at night. It must be remembered, of course, that sleep when needed is beneficial at any time, and if sufficient sleep is not obtainable during the night hours, it should be secured during the daytime.—*Good Health.* (*U.S.A.*)

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Excess of Heat.—An excess of heat and of light gives rise in children to very grave reactions. On very hot summer days, particularly in stormy weather, infants suffer from fever, want of appetite and often from diarrhoea. . . . . The heat of summer is one of the agents which provoke infantile cholera. . . . . Children should not be exposed too much to the sun's rays. . . . . . Diffused light is often much better for them.—*Ribadeau-Dumas.*

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Useful alcohol.—Many people do not seem to know that alcohol kept in its place, is one of the most useful things we have.

When it gets inside the healthy body, then the harm begins. The uses of alcohol are all outside the body. It makes all the difference in the world how it is used.

Alcohol in the engine is all right. Alcohol in the engineer is all wrong. Alcohol in the motor car is a power for good. Alcohol in the driver is a power for bad.

You know alcohol will easily burn. It burns with a hot, smokeless flame, and can be used for heat. Alcohol is full of energy. It is used to drive engines and to set the wheels of factories running. Henry Ford says : "Alcohol is far better for engines than for engineers." It is a strange thing that this alcohol, the source of so much misery and trouble, is the second and most important and useful chemical in the world. Water, of course, comes first, but alcohol, in larger quantities, year after year, is being employed in art, science, and manufacture, for the service of man.

Think of the artificial silks which are so much worn to-day. This artificial silk, smooth, and glossy and rich, in beautiful colours, is nothing more than cotton treated in a chemical way, and alcohol is used in making it.

Alcohol enters into the making of all kinds of wood and brass work, copper wire, silk and straw hats, and a thousand other things. How much cheaper all these articles would be if only alcohol were cheaper. And it would be if such enormous quantities were not wasted by being poured down the throats of human beings, where it only does great harm.

If we never begin to drink it, we shall never want to take it:—*The Vanguard.*

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Maggot Dentistry.—The late Surgeon William Stevenson Baer applied maggots to the treatment of festering wounds and bone diseases, for it is the habit of maggots to eat dead tissue and germs. They do not touch live flesh. The Baer technique has been used many times since. An American dentist has experimented with the use of maggots in the work of cleaning the root canal of dead pulp. He hatched the maggots himself and used three of them on a freshly-pulled decayed front tooth. After nine days the tooth was clean, except for a thin, hard coating on the wall of the canal. Dentist Dehrer has not yet used his maggots in people's mouths, but hopes to do so some day.—*The Treasure Chest.*